

<b>Name:</b>	Dr. Joanna Joiner
<b>Present Position:</b>	Atmospheric Scientist Data Assimilation Office (Code 910.3) NASA Goddard Space Flight Center, Greenbelt, MD
<b>Research Area Experience:</b>	Remote sensing and assimilation of atmospheric and surface parameters from microwave, infrared, and ultraviolet passive radiometers including radiative transfer modeling, retrieval algorithm development, data analysis, laboratory spectroscopic measurements, and radio astronomy.
<b>Education:</b>	1987 B. E. E. (Electrical Engineering) Georgia Institute of Technology <i>Summa cum laude</i> 1988 M. S. Electrical Engineering Georgia Institute of Technology 1991 Ph. D. Electrical Engineering Georgia Institute of Technology Dissertation: " <i>Millimeter-wave Spectra of the Jovian Atmospheres.</i> "
<b>Previous Positions:</b>	1991-1993 Visiting Scientist, Universities Space Research Association 1993-1994 Sr. Research Scientist, General Sciences Corporation 1994-1995 Sr. Research Scientist, Hughes STX Corporation
<b>Professional Society Memberships:</b>	American Geophysical Union (AGU) American Meteorological Society (AMS) Institute of Electrical and Electronics Engineers (IEEE) former member American Astronomical Society (AAS) former member Division of Planetary Science - AAS former member
<b>Awards &amp; Honors:</b>	Satellite Data Utilization Office Outstanding Performance Award, 1992 Goddard Space Flight Center Performance Award, 1995, 1997, 1998 Laboratory for Atmospheres, Scientific Achievement Award, 1998 Goddard Space Flight Center Special Act Award, 1998, 1999
<b>Special Experience:</b>	Member of the Infrared Atmospheric Sounding Interferometer (IASI) Science Steering Working Group (ISSWG), 1996-present Member of the scientific committee for the Satellite Remote Sensing of Clouds and the Atmosphere II conference, part of the European Symposium of Remote Sensing, 1998 Member of the organizing committee of the NOAA/NASA/ONR Satellite Data Assimilation Workshops, 1998 & 1999 Principal Investigator for 2 NASA-funded research proposals Member of the Ozone Monitoring Instrument (OMI) science team, 2000 Associate Editor, Quarterly Journal of the Royal Meteorological Society, 2000

## Refereed Publications:

- Joiner, J., Steffes, P. G., and J. M. Jenkins (1989). Laboratory Measurements of the 7.5-9.38 mm Absorption of Gaseous Ammonia ( $\text{NH}_3$ ) under Simulated Jovian Conditions. *Icarus*, **81**, 386-395.
- Joiner, J., and P. G. Steffes (1990). Modeling of the Millimeter-wave Emission of Jupiter Utilizing Laboratory Measurements of Ammonia ( $\text{NH}_3$ ) Opacity. *J. Geophys. Res.*, **96**, 17463-17470.
- Joiner, J., Steffes, P. G., and K. S. Noll (1992). Search for Sulfur ( $\text{H}_2\text{S}$ ) on Jupiter at Millimeter Wavelengths. *IEEE Trans. Microwave Theory Tech.*, **40**, 1101-1109.
- Susskind, J., Joiner, J., and M. T. Chahine (1992). Determination of Temperature and Moisture Profiles in a Cloudy Atmosphere Using AIRS/AMSU. In *High Spectral Resolution Infrared Remote Sensing for Earth's Weather and Climate Studies*, NATO ASI Series, Vol. I, 9, Ed. Chedin, A., Chahine, M. T., and N. A. Scott, 101-112. Springer-Verlag, Berlin, Heidelberg, 149-161.
- Cheruy, F., Susskind, J., Scott, N. A., Chedin, A., and J. Joiner (1992). GLA and LMD Approaches to the Processing of AIRS and IASI Observations. In *High Spectral Resolution Infrared Remote Sensing for Earth's Weather and Climate Studies*, NATO ASI Series, Vol. I, 9, Ed. Chedin, A., Chahine, M. T., and N. A. Scott, Springer-Verlag, Berlin, Heidelberg, 101-112.
- Noll, K. S., Hammel, H. B., Young, L., Joiner, J., Hackwell, J., Lynch, D. K., and R. Russell (1993) 3-13 $\mu\text{m}$  Spectra of Io. *Icarus*, **104**, 337-340.
- Joiner J., Bhartia, P. K., Cebula, R. P., Hilsenrath, E., and R. D. McPeters (1995) Rotational-Raman Scattering (Ring Effect) in Satellite Backscatter Ultraviolet Measurements. *Appl. Opt.*, **34**, 4513-4525.
- Joiner J., and P. K. Bhartia (1995) Determination of Cloud Pressures from Rotational-Raman Scattering in Satellite Backscatter Ultraviolet Measurements. *J. Geophys. Res.*, **100**, 23019-23026.
- Joiner J., and A. C. Aikin (1996) Temporal and Spatial Variations in Upper Atmospheric  $\text{Mg}^+$ . *J. Geophys. Res.*, **101**, 5239-5249.
- Joiner J., and P. K. Bhartia (1997) Accurate Determination of Total Ozone using SBUV Continuous Spectral Scan Measurements. *J. Geophys. Res.*, **102**, 12957-12969.
- Schubert, S. D., W. Min, L. Takacs, and J. Joiner (1997) Reanalysis of historical observations and its role in the development of the Goddard EOS climate data assimilation system. *Adv. Space Res.*, **19**, 491-501.

Joiner J., and A. M. da Silva (1998) Efficient methods to Assimilate Satellite Retrievals Based on Information Content. *Quart. J. Roy. Meteor. Soc.*, **124**, 1669-1694.

Joiner J., Lee, H. T., Strow, L. L., Bhartia, P. K., Hannon, S., Miller, A. J., and L. Rokke (1998) Radiative transfer in the 9.6 micron HIRS ozone channel using collocated SBUV-determined ozone abundances. *J. Geophys. Res.*, **103**, 19213-19229.

Chen, M., Rood, R. B., and J. Joiner (1999) Assimilating TOVS humidity into the GEOS-2 data assimilation system. *J. Clim.*, **12**, 2983-2995.

Joiner, J., and L. Rokke (2000) Variational cloud clearing with TOVS data. *Quart. J. Roy. Meteor. Soc.*, **126**, 725-748.

Hou, A. Y., Ledvina, D. V., da Silva, A. M., Zhang, S. Q., Joiner, J., Atlas, R. M., Huffman, G. J., and C. D. Kummerow (2000) Assimilation of SSM/I-derived surface rainfall and total precipitable water for improving the GEOS analysis for climate studies. *Mon. Weath. Rev.*, **128**, 509-537.

Joiner, J., and D. P. Dee (2000). An error analysis of radiance and suboptimal retrieval assimilation *Quart. J. Roy. Meteor. Soc.*, **126**, 1495-1514.